DOCUMENT RESUME

ED 306 455 CE 052 440

AUTHOR	Fellenz, Robert A., Ed.; Conti, Gary J., Ed.
TITLE	Building Tomorrow's Research Agenda for Lifelong Learning. A Symposium (Fort Collins, Colorado, May 19, 1987).
INSTITUTION	Montana State Univ., Bozeman. Center for Adult Learning Research.
SPONS AGENCY	Kellogg Foundation, Battle Creek, Mich.
PUB DATE	89
NOTE	37p.
AVAILABLE FROM	Kellogg Center for Adult Learning Research, Montana State University, Bozeman, MT 59717.
PUB TYPE	Collected Works - Conference Proceedings (021) -- Reports - Research/Technical (143) -- Information Analyses (070)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Adult Education; *Adult Learning; Conference Proceedings; Electronics; *Information Technology; *Lifelong Learning; Literature Reviews; *Research Needs; *Television Viewing

ABSTRACT

This monograph contains three symposium presentations that are intended to help define and clarify possible options for a future research agenda for lifelong learning. "Adult Learning: A Review of the Literature with Suggestions for the Direction of Future Research" (Sharan Merriam) thoroughly develops a matrix that explains the contributions of various parts of the literature on learning to future adult education research needs. A 78-item bibliography is attached. "The Electronic Age: Some Adult Education Research Needs" (Roger Hiemstra) begins by discussing the impact of the Kellogg Foundation on the field of adult education and goes on to address the impact of electronic technology and several information transfer and dissemination issues and to identify research needs. "Media Literacy, Adult Learning, and Critical Thinking: A Crucial Connection for Research and Practice" (Stephen Brookfield) discusses the ways in which television helps to shape adults' world views, particularly in the political realm, and it offers some suggestions as to how adult learners might be helped by educators to view television with a greater degree of critical detachment and scrutiny. A fourth and final paper is a transcription of the presenters' remarks from a reactor panel that followed the formal presentations. (YLB)

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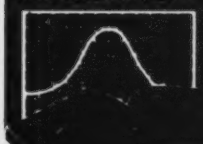

KELLOGG CENTER

Building Tomorrow's Research Agenda for Lifelong Learning

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A Symposium Sponsored by:

The Kellogg Center for Adult Learning Research

Montana State University

Bozeman, Montana

Conducted at:

Colorado State University

Fort Collins, Colorado

May 19, 1987

1135000298

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Foreword

The Center for Adult Learning Research at Montana State University was funded by the Kellogg Foundation to conduct original research in the area of adult learning. While initial research by the project staff has focused on the teaching-learning transaction, efforts have been undertaken to involve others from the field of adult education in defining and clarifying possible options for a future research agenda for lifelong learning. One activity in this area by the Center was to sponsor a symposium on this topic as a preconference meeting for the 1987 Adult Education Research Conference (AERC) in Laramie, Wyoming.

AERC is a major research conference for adult education researchers. Each year approximately 250 researchers from North America and various nations throughout the world gather to exchange ideas and papers on research topics specifically related to adult education. Since this conference offers a unique opportunity to interact with a large group of adult education researchers, a preconference symposium was arranged with the AERC Steering Committee. The meeting was held at Colorado State University because of that university's involvement in Kellogg projects and because ground travelers to Laramie from Denver had to pass through Fort Collins. Notices of the meeting were sent to all AERC participants and to members of the Commission of Professors of Adult Education. Approximately 100 researchers attended the meeting, listened to formal presentations, and participated in small group discussions.

Three consultants were invited to speak at the symposium. All were chosen because of their recent and extensive work in the field of adult education. Stephen D. Brookfield is an associate professor of adult and continuing education and associate director of the Center for Adult Education at Teachers College, Columbia University. Included in his many publications is the award winning book entitled *Understanding and Facilitating Adult Learning*. Roger Hiemstra is a professor of adult education at Syracuse University and is director of the Syracuse Kellogg Project. Among his contributions to the field, Hiemstra has served as editor of two of the field's major journals, *Lifelong Learning* and *Adult Education Quarterly*. Sharan B. Merriam is a professor of adult education at the University of Georgia and is a Kellogg professor. Books which she has either authored or co-authored often serve as texts for students in adult education graduate programs.

In addition to providing remarks to stimulate discussion at the symposium, each presenter was asked to write a formal paper reflecting upon the ideas presented and developed at the meeting. These papers are included in this monograph. Merriam's paper thoroughly develops a matrix which she presented for explaining the contributions of various parts of the literature on learning to future adult education research needs. Hiemstra has edited his comments from the meeting and related them to adult learning needs, process, and problems in the electronic age. In his paper, Brookfield has focused some of his ideas related to self-direction, critical thinking, and empowerment on the one area of media literacy. The final paper is a transcription of the presenters' remarks from a reactor panel that followed the formal presentations.

---Gary J. Conti

Adult Learning: A Review of the Literature with Suggestions for the Direction of Future Research

Sharan B. Merriam

Introduction

Since its inception as a field of practice, adult education with its mystifying array of programs, philosophical orientations, clienteles, and delivery systems has challenged its professionals to evolve some theory, principles, or coherent structures that capture and explain the phenomenon. Research and some theory building have occurred in the areas of program planning, instruction, history, philosophy, and policy analysis. The area that has received the most attention, however, has been adult learning. There are at least two reasons for this. First, the one and perhaps only factor that all agencies, programs and professionals have in common is that all deal with adults in learning situations. Second, it is the adult learner which distinguishes adult education from other areas of education.

Research and theory building in adult learning have taken many directions. Some have investigated why adults participate in learning activities, what adults learn on their own, how they structure learning, or how learning ability changes with age. Others have sought to explain how adult learners are different from children. The following (a) reviews the body of literature on adult learning and (b) offers suggestions for the direction of future research.

The Literature on Adult Learning

Beginning with Thorndike's 1928 classic, *Adult Learning*, adult educators and others have investigated and written about how adults learn, why adults learn, adult learning ability, characteristics of adult learners, self-directed learning, and so on. There are many full-length books on the topic including three published within the last year alone (Brookfield, 1986; Daloz, 1986; Knox, 1986). There are also hundreds of journal articles on different aspects of adult learning, as well as handbooks, guides, and booklets developed for the new instructor of adult students. The ERIC data base, which catalogues much of this literature, has several thousand citations under the topic of adult learning. Before one can determine what new directions research should take, it is important to know what has already been done. With a body of literature the magnitude of adult learning's, however, it would be impossible in a short paper to review all the research in even *one* area of adult learning. It is possible though, to get a sense of the depth and breadth of the literature base by organizing it according to some criteria that might be relevant to speculating about future research directions. Such a structure is proposed here. The matrix in Figure 1 can be used to categorize the literature of adult learning. The horizontal and vertical axes represent dimensions or criteria by which the literature can be classified. The horizontal axis stands for the amount of attention the literature gives to *adult* learning versus a more generic learning focus. The vertical labeled "explanatory power" represents the extent to which the literature offers a comprehensive explanation of adult learning. Thus, literature placed in the top left box of the matrix ("definitions and types of learning") explains little about adult learning, whereas literature in the lower right-hand box ("theories of adult learning") purports to explain quite a bit about how adults learn. Following is a discussion of the matrix, demonstrating how the adult learning literature can be organized and categorized according to its adult focus and explanatory power. Before beginning a discussion of the matrix, it is important to note that "literature" has been broadly defined to include research studies and important general works on adult learning. Second, all six cell topics were derived from sorting through books, journals, and reports found in adult education. Sources from other areas of education and/or psychology, sociology, and so on were not consulted.

Definitions and Types of Learning

Volumes have been written on learning, the nature of learning, and types of learning. Most of the writing in adult learning selectively incorporates some of the material as a basis for dis-

Figure 1
Attention to Adult Learning

Explanatory Power	Generic Learning	Adult Learning
Descriptive	Definitions and Types of Learning	Characteristics of Adult Learners
↓	Learning Ability	Credos of Adult Learning
Analytical	Learning Theory	Theories of Adult Learning

cussing adult learning. Knowles (1984) in his book, *The Adult Learner: A Neglected Species*, devotes the first two chapters to this material. Similarly, Kidd (1973) in *How Adults Learn*, begins his book with a discussion of learning throughout life. Not surprisingly, there exists a diversity of opinion just in defining the term "learning." Knowles (1984) decides it is an "elusive phenomenon" (p. 10) and how people define it influences how they theorize about it. Many consider the notion of change as central to learning. But there are different views on how change and learning are related. Adam and Aker (1983) define learning as "more or less permanent change in behavior that occurs as a result of activity or experience" (p. 3). Boyle (1981) writes that "learning does not necessarily change behavior, but it does change the potential for behavior" (p. 5). Brunner's (1984) rather humorous definition avoids some of the limitations of other approaches: "learning is, most often, figuring out how to use what you already know in order to go beyond what you currently think" (p. 183).

To make sense out of the phenomenon of learning, several writers have delineated types of learning. Perhaps best known is Gagne's typology (1965) which lists eight types of learning ranging in complexity from signal learning, in which an individual responds to a stimulus, to problem solving, which requires thinking in concepts. Others distinguish among learning which is primarily cognitive, such as involved in acquiring content or knowledge, affective or emotional which results in attitude-change or value shifts, and motor, involving physical skill development. There are also those who promote "experiential" learning as a particular form of learning (Davies, 1981; Kolb, 1984; Thompson, 1981; Walter & Marks, 1981). Thompson (1981) proposes "experication" as an overarching concept that unites experience and education and includes the integration and conditions of all modes of learning, irrespective of type or source. Davies (1981) distinguishes several "approaches" to adult learning, focusing either upon content, needs, activities or "lived experience," where "what is required is the ability to see into oneself, to know one's experience, one's being" (p. 232).

What can be classified as another "type" of learning is the concept and evolving theory of learning-how-to-learn. This concept involves becoming aware of one's own ways of learning and then learning how to become more effective at learning in whatever situation one encounters (Smith, 1982). Candy (1980) attributes the recent interest in learning to learn to four factors: (a) a shift in education away from teaching towards helping people to learn; (b) self-development as an educational goal; (c) a growing interest in experiential modes of learning; and (d) the recognition that learning is a personal and idiosyncratic phenomenon.

"Types" and definitions of learning form part of the adult learning literature, but with the exception of some work in experiential learning, these discussions do not differentiate adult learners from children. As with the literature on learning theory, the act or process of learning itself is the focus rather than the learner.

Learning Ability

Literature dealing with learning ability has been placed in the center left section of the adult learning matrix. Work on intelligence, problem solving, memory, and cognitive style make up the broad category of learning ability. This literature is basically descriptive, although in the attention to individual differences it has more explanatory value than just defining learning or extracting types of learning, as is in the first section.

To the extent that age becomes a variable of interest, some of the research on learning ability has implications for adult learning. In fact, three areas of investigation--crystallized and fluid intelligence, cognitive style, and cognitive structure--are providing some insight into adult learning ability (Long, 1983).

Moving away from intelligence testing which is beset with interpretation problems when adults are the subjects (Cross, 1981; Knox, 1977; Long, 1983); Catell (1963) proposed the concept of two types of intelligence which complement each other as people age. Fluid intelligence is genetically based, dependent upon neurophysiological attributes, and is independent of education or experience. Fluid intelligence peaks in young adulthood. Crystallized intelligence is culturally based, dependent upon experience and accumulated knowledge, and increases with age. When viewed as a combination of these two dimensions, measures of intelligence remain fairly stable throughout adulthood.

Cognitive styles is another area of recent investigation that has broadened learning ability research to incorporate individual differences. Cognitive style refers to the idiosyncratic ways learners process information and is closely related to learning style which refers to the person's preferred mode of learning (Smith, 1982). At least nine conceptions of cognitive style have been identified including, for example, the well-researched field dependent versus independence concept, cognitive complexity versus simplicity, focusing versus scanning, and so on (Knox, 1977; Long, 1983). Smith (1982) lists 17 inventories and tests that can be used to assess learning style. Finally, Long also identifies cognitive structure and the work of Flavell, Piaget, Arlin and others as a third area of research important to adult learning. These investigations emphasize changes in cognitive development in adulthood and offer foundational assumptions for building theory in adult learning.

Even though the age variable in learning ability research results in implications for adult learning, the vast majority of the research focuses upon the functions themselves; that is, how memory works, what intelligence means, and so on. Age has also proven to be an elusive explanatory variable at best: "although there are substantial individual differences in learning ability, little of the variability is related to age" (Knox, 1977, p. 469). The variability is much more likely to be associated with a person's physical condition, personality, social class, or educational level.

Learning Theory

Nearly all the literature on adult learning takes into account learning theories which have evolved since the early work of Guthrie, Hull, Thorndike and Watson (Simpson, 1980). Adult learning authors have typically handled the learning theory material by first reviewing the theories according to some grouping and then by extracting those principles, laws, or concepts most helpful or applicable to adult learners (Cross, 1984; Kidd, 1973; Knowles, 1984; Long, 1983; Simpson 1980). The most common categories of learning theories are behaviorism, humanism, and cognitivism. Some writers have added other categories to their organization including neobehaviorism, structuralism, developmentalism, or psychoanalysis. More recently, transpersonal psychology with its implications for adult learning has found its way into the adult learning literature (Boucouvalas, 1983).

One of the more comprehensive reviews of learning theories was published by Dubin and Okan (1973). They observed that "no single learning theory is applicable to all educational settings" (p. 3). They chose eight learning

theorists representing three orientations (behaviorism, neobehaviorism, cognitivism) to review, and then extracted 35 implications for instruction. In a similar manner, Darkenwald and Merriam (1982) present eight generalizations from learning theory research that would be applicable to adult educational practice:

- Readiness to learn to some extent depends upon amount of previous learning;
- Intrinsically motivated learning produces more pervasive and permanent learning than extrinsic factors;
- Positive reinforcement is more effective than negative;
- Material should be arranged in an organized manner to maximize learning;
- Repetition enhances learning, especially that related to skill development;
- The more meaningful the material, the more easily learned and remembered it is;
- Active participation leads to greater learning than does passive participation;
- Factors related to the environment in which learning takes place can enhance or impede learning. (pp. 110-111).

References to and discussions of learning theories in major adult education texts speak to their explanatory power; hence the placement of this category in the lower left section of the matrix. For as theories, humanism, behaviorism, and cognitivism present a set of interrelated concepts or principles that purport to explain how people learn. Emanating from the disciplines of psychology and educational psychology, however, these learning theories fail to distinguish between adult learning and child learning. Learning is viewed as a single phenomenon irrespective of the age of the person doing it. These theories thus explain learning but do not attend to adults in particular.

Characteristics of Adult Learners

Moving to the top right hand corner of the matrix is the category of "characteristics of adult learning." This topic includes literature on the participation, motivation, and development of adult learners. The material is largely descriptive of the adult learner, rather than explanatory.

Distinctions between adult and pre-adult learners have arisen on the variable of maturity and immaturity, life goals, "methods or institutions of instruction, on the directness of relevance to the affairs of life, on the distinction between full-time and part-time study, on the degree and kind of motivation, and on the extent to which study is voluntary" (Houle, 1974, p. 242). Most of these variables have been investigated within studies of participation and motivation. Also important in delineating the characteristics of adult learners is the research on adult growth and development.

There are probably more studies of who participates in adult learning activities than any other single topic in adult education. Depending upon whether one looks at institutionally sponsored organized learning or individually self-directed efforts, estimates of participation range from 13% to 90% (Brookfield, 1986). Since the first large scale study of participation by Johnstone and Rivera (1965), the characteristics of adult learners or the "typical" participant profile has remained fairly constant. Adult learners are more than likely to be white, middle-class, well-educated, young, and have at least a moderate income.

Looking at who participates in adult learning reveals some characteristics of adult learners as does examining the literature on *why* adults do or do not participate. Again, there are many studies in this area and many ways the topic has been approached. Barriers to participation have been identified by asking adults for their reasons for *non*-participation (Darkenwald & Valentine, 1985). Analytic studies (Long 1983) attempt to explain participation at a deeper level psychologically than do census studies which focus on respondents' resources and their relationship to demographic variables. Reasons given by interview and survey respondents for participation emphasize the practical concerns of acquiring new skills or information relevant to their life situation. Analytic studies have been inspired by Houle's 1961 study of learning orientations of adults. He found that learners could be goal oriented in which learning was a means to something else, activity oriented in which participants liked the activity or social contact, and learning oriented in which learners seek knowledge as an end in itself (Houle, 1961). Subsequent studies have generally "illuminated rather than changed Houle's basic conclusions" (Cross, 1981, p. 96).

A somewhat different approach to motivation can be found in a recent book by Wlodkowski (1985). He first explores the voluminous research base on motivation and its relationship to adult learning. Then, concentrating on six major factors that motivate learning (attitude, needs, situation, affect, competence, and reinforcement) he presents 68 instructional strategies that can be used to maximize motivation for adult learning.

Just as understanding the psychosocial, physical, and cognitive development of children is crucial to designing instruction for young people, so too, is knowledge of adult growth and development important to adult education. Research findings drawn from adult developmental psychology forms part of the adult learning literature base which along with participation and motivation studies offers insights into the characteristics of adult learners. The purpose of this line of research is to determine if and how adults change as they age. Especially since the 1960's, investigators have attempted to chart the phases or stages of adulthood. Some have developed theories that broadly outline these changes. One of the most enduring theories covering the life span is Erikson's (1950) eight stages of life. Young adults have the task of establishing intimacy versus isolation, middle-agers are confronted with a generativity/stagnation conflict, and older adults must resolve the question of ego integrity versus despair. Other models have been proposed by Levinson (1978), Sheehy (1976), and Gould (1978).

Less sweeping formulations of the changes adults undergo have been developed by those who have focused upon one particular dimension such as intelligence, ego development, moral development, developmental tasks, or personality factors. While both large and small scale studies confirm the existence of growth and change in adulthood, there is a great diversity of opinion as to the nature and origin of these changes (Merriam, 1984). The fundamental issue is whether adult development is as sequential and predictable as stage theories and child development models would suggest. Those who view development, especially *adult* development, as the result of one's interaction with a constantly changing social-historical context maintain that stages, consequences, or an end state are not predictable (Allman, 1983). Nevertheless, understanding change in adulthood may help us explain the phenomenon of adult learning. In one study of participation for example, it was found that 83% of those classified as learners pointed to some past, current or future change in their lives as the reason for participation (Aslanian & Brickell, 1980). The authors commented that "to know an adult's life schedule is to know an adult's learning schedule" (pp. 60-61). Knox (1977) also sees issues of development as inextricably related to adult learning. Fox (1981), who draws upon Knox, defines learning as "the primary means by which the tension and anxiety characteristic of adult development is resolved" (p. 16).

Credos of Adult Learning

Many writers in adult learning offer assumptions or principles that they believe are true of adult learning and that underlie good adult education practice. Typically, these beliefs or credos consist of items drawn from many of the areas already covered in this review--adult development, learning theory, motivation research, and so on. Some include items generic to learning at any age, although most propose items specific to adults. As will be seen, such lists vary in complexity and sophistication, depending upon the intended audience. Most of the "theories" of adult learning to be discussed in the next section are also based on assumptions and principles. As early as 1926, for example, principles of adult learning--which have since formed a basis for modern theory--were presented by Lindeman. He posited that "(1) adults are motivated to learn as they experience needs and interests that learning will satisfy; (2) adults' orientation to learning is life-centered; (3) experience is the richest resource for adult learning; (4) adults have a deep need to be self-directing; and (5) individual differences among people increase with age" (quoted in Warnat, 1981, p. 3). What will be discussed here are formulations that stand apart from the more integrated approaches found in the next section on theory building.

Lewis (1980) in a discussion of concept attainment in adulthood notes that it is a different process with adults because adults have a larger verbal repertoire, more powerful and developed cognitive strategies, and more developed intellec-

tual skills related to problem-solving. These have been achieved as a result of age, maturity, and experience. Adam and Aker (1983) present four "prerequisite conditions for learning to take place: adults must be motivated to learn, be developmentally ready, have established an attention set, and be in a physical and emotional environment conducive to learning. Brundage and Mackeracher (1980) identify 36 principles of learning and draw implications for practice from each.

The last two formulations to be discussed are by Kidd (1973) and Brookfield (1986). Kidd's "concepts" suggest hypotheses that might guide future research in adult learning. Hypotheses that will inform adult learning can be derived from a study of (a) the relationship of life span to learning, (b) role changes in adult life, (c) the adult student as an equal member of a learning activity, (d) the notion of maturity and how to achieve it, (e) the nature, kinds, and organization of adult experiences, (f) self-direction in learning, (g) perception of time in adulthood, and (h) the role of learning in aging. Although first written in the late 1950's, some of the fundamental notions about adult learning inherent in Kidd's "concepts" are reflected in most of the theory building attempts discussed in the next section.

Brookfield's (1986) six principles of effective practice are very "adult" in their orientation and, in this writer's opinion, might form the basis of a distinctive theory of adult learning. They are summarized as follows: (1) participation in learning is ultimately voluntary, even if prompting is external to the learner; (2) effective practice is characterized by a respect among participants for each other's self-worth; (3) facilitation is collaborative in that facilitators and learners are engaged in cooperative enterprise; (4) praxis, a combination of reflection and action, is at the heart of effective facilitation; (5) facilitation aims to foster in adults a spirit of critical reflection; and (6) the aim of facilitation is the nurturing of self-directed, empowered adults (Brookfield, 1986, pp. 9-11).

Theories of Adult Learning

The last section of the matrix, which deals with theories of adult learning, contains literature that is more analytical than descriptive and, unlike the learning theory category to its left, focuses on theories that try to explain the phenomenon of *adult* learning.

Andragogy, the best known "theory" of adult learning, is based upon four characteristics of adult learners dealing with self-concept, experience, developmental readiness, and time perspective (Knowles, 1980). From each of these assumptions Knowles draws numerous implications for the designing, implementation, and evaluation of learning activities with adults.

This theory, or "model of assumptions" (p. 43) as Knowles also calls it, has caused more controversy, philosophical debate, and critical analysis than any other concept/theory/model proposed thus far. One of the early points of criticism was Knowles' original inference that andragogy, with all its technological implications for instruction, characterized adult learning, and that pedagogy, with another set of implications, characterized childhood learning. He later clarified his position stating in essence that andragogy-pedagogy represent a continuum and that use of both techniques was appropriate at different times in different situations regardless of the age of the learner. Since he no longer claims andragogy to be unique to adults, its status as a theory of adult learning is, in Cross's (1981) words, "up in the air" (p. 225).

Another attempt at theory building that, like andragogy, rests upon characteristics of adults, is Cross's Characteristics of Adults as Learners (CAL) model. Cross (1981) offers it as "a tentative framework to accommodate current knowledge about what we know about adults as learners" (p. 234). It is based upon differences between children and adults and consists of two classes of variables: personal characteristics and situational characteristics. Personal characteristics include physical, psychological, and sociocultural dimensions. These are continual and reflect growth and development from childhood into adult life. Situational characteristics focus on variables unique to adult participants--that is, part-time versus full-time learning and voluntary versus compulsory participation. Rather than providing implications for practice as Knowles' theory does, the CAL model offers a "framework for thinking about *what* and *how* adults learn" (p. 248). And this she sees as the real need in terms of theory building--that is, models are needed that can incorporate new knowledge as it is produced

and at the same time stimulate new questions to be investigated.

Andragogy and CAL emanate from the characteristics of adult learners. Two other theories, McClusky's Theory of Margin and Knox's Proficiency Theory, are anchored in an adult's life situation with its attendant roles and responsibilities. Both theories are also built on the notion of a discrepancy--between current and desired proficiencies (Knox, 1980) or between power and load (McClusky, 1970).

McClusky's Theory of Margin is based on the assumption that adulthood is a time of growth, change, and integration in which one constantly seeks balance between the amount of energy needed and the amount available. This balance was conceptualized as a ratio between the "load" of life, which dissipates energy, and the "power" of life which allows one to deal with the load. The energy left over when one subtracts load from power is that which McClusky called "margin in life."

This theory, he felt, helped explain the dynamics of adult learning. A learning situation requires the expenditure of resources, that is, "a necessary condition for learning is access to and/or the activation of a Margin of Power that may be available for application to the processes which the learning situation requires" (McClusky, 1970, p. 84). The particular adult life situation focus of this theory is reflected in his recognition that "adjustments of Load to Power become matters of overarching concern as a person accumulates and later relinquishes adult responsibilities and modifies the varying roles which the successive stages of the life cycle require" (p. 84).

Knox's (1980) Proficiency Theory also speaks to an adult's life situation. Adult learning, he writes, is distinctive on at least two counts--"the centrality of concurrent adult role performance" (p. 383) and the "close correspondence between learning and action beyond the educational program" (p. 384).

Proficiency, as defined by Knox, is "the capability to perform satisfactorily if given the opportunity," and this performance involves some combination of attitude, knowledge and skill (p. 378). At the core of his theory is the notion of there being a discrepancy between the current and the desired level of proficiency. This concept of proficiency helps explain "adult motivation and achievement in both learning activities and life roles. Adults and society expect that individual adults will be proficient in major life roles and as persons generally" (p. 252).

The proficiency theory presents a set of interrelated concepts that hinge upon what Knox defines as being the purpose of adult learning (whether self-directed or in organized programs)--"to enhance proficiency to improve performance" (p. 399). The theory can help explain why adults engage in learning and it also offers numerous research possibilities related to the total teaching-learning transaction.

While the four theories so far mentioned attempt to explain the phenomenon of adult learning from the perspective of adult characteristics and adult social roles and responsibilities, Mezirow (1981) and Freire (1970) present theoretical formulations that deal with the mental construction of experience and inner meaning and of the changes that occur therein.

Mezirow's (1981) theory of perspective transformation draws from the writings of the German philosopher Habermas. Critically reflecting upon our lives, becoming aware of "*why* we attach the meanings we do to reality, especially to our roles and relationships...may be the most significant distinguishing characteristic of adult learning" (p. 11). Learning in adulthood is not just adding to what we already know. Rather, new learning transforms existing knowledge into a new perspective and in so doing "emancipates" the learner. The ultimate result of this type of learning is to become aware of the "cultural assumptions governing the rules, roles, conventions and social expectations which dictate the way we see, think, feel and act" (p. 13). It is not enough to help learners "perform, achieve and produce." The one significant commitment of adult education is "to help learners make explicit, elaborate and act upon the assumptions and premises...upon which their performance, achievement and productivity is based" (1985, p. 148).

The praxis (reflection and action) component of Mezirow's theory and the notion of a change in perspective are central concepts in Freire's "theory" of conscientization. Freire (1970) is a Brazilian educator whose theory of adult education is set within a larger framework of radical

social change. Education for Freire is never neutral; it either oppresses or liberates. Conscientization, "the process in which men, not as recipients, but as knowing subjects, achieve a deepening awareness both of the sociocultural reality which shapes their lives and of their capacity to transform that reality" is what takes place in an authentic education encounter (p. 27). Increasing awareness of one's situation involves moving from the lowest level of consciousness where there is no comprehension of how forces shape one's lives to the highest level of critical consciousness. Similar to Mezirow's "critical reflectivity" (1981), critical consciousness is marked by an in-depth analysis of problems, self-awareness, and self-reflection.

Whether based on adult learner characteristics (andragogy and CAL), adult life situations (theory of margin and proficiency theory), or changes in consciousness (perspective transformation and conscientization), these theories at least attempt to explain adult learning as a unique phenomenon. How uniquely "adult" they are remains subject to debate and to further testing.

In summary, the adult learning literature matrix serves to review and organize much of the material on adult learning found in adult education. The left side of the matrix contains categories that focus on learning in general. The right side represents literature that is specific to *adults*. The vertical axis attempts to convey which topics are more explanatory or analytical than merely descriptive; thus, the placement of "learning theory" and "theories of adult learning" in the lower sections of the matrix. Literature which tells us the most about adult learning are the theories reviewed in the last section. However, few of the theories have been empirically tested at all, and none is supported by a substantial body of research. This observation leads to several suggestions for the direction of future research in adult learning.

The Direction of Future Research

The purposes of research in an applied area such as education are twofold: (a) to extend the knowledge base of the field and (b) to improve practice. The most promising arena for addressing both purposes in adult education is research on adult learning. For it is the focus on *adult* learning which unites us as a field and distinguishes us from other areas of education. That is not to suggest that knowledge generated in other disciplines or other areas of education is irrelevant; quite the contrary. A lot can be learned about our practice from psychology, sociology, history, and so on. The research we do should be informed by other disciplines, but if the research is to contribute to the knowledge base of adult education and to improve adult education practice, then it must deal with issues and concerns central to practice. One such issue or concern is determining *what distinguishes adult learning from pre-adult learning*.

Approaches to the Problem

Research on the important question of what distinguishes adult learning from pre-adult learning can be approached at least three different ways. One can look at the *context* of learning and the differences between adult and pre-adult contexts. The sociopolitical and economic context of mandatory schooling for children who have no choice in the matter is far different from the adult's situation where participation, even in mandatory continuing education situations, is ultimately voluntary. Furthermore, the actual context of adult learning can vary widely from the work setting, to community agencies, to independent self-directed learning, to traditional educational institutions. Spear and Mocker (1984) for example, have done some interesting work on the context of adult learning. Their discovery of how independent learning is organized by the immediate environment of the learner has helped the field to better understand the nature of independent adult learning.

A second approach to the question of what distinguishes adult learning from pre-adult learning is to concentrate on the *persons* doing the learning. How do adults as learners differ from children as learners? What are their concerns, motivations, orientations? Much has already been done in this area and was reviewed in the discussion of the matrix category of "characteristics of adult learners." However, it is still an area worth exploring, particularly if the research would move from the description of adults as learners to theoretical formulations explaining how the learning is different for adults because they are adults, not children.

The question of what distinguishes adult learning from pre-adult learning can also be approached by focusing on the act of *learning* itself. Do adults learn, remember, process information, and/or problem-solve in a manner different from children? What is the meaning of learning for adults? What is the impact of learning for an adult? Does the meaning and impact of learning for an adult differ from the meaning and impact on children? Some theorizing has taken place in this area. There are those who see adult learning as a change in consciousness (Freire) or a transformation in perspective (Mezirow and Brookfield), and maintain that this is distinctive of *adults* learning. Others have pursued the notion of self-directed learning as something unique to adults. This concept is being examined, tested, and reformulated by many in adult education at the present time (Caffarella & O'Donnell, 1987).

Delineating the differences between adult and pre-adult learners through looking at context, learners, or the process of learning itself could contribute substantially to the field of adult education being able to better define itself separate from other disciplines and sub-areas of education. Research into this problem would also have major implications for practice, especially in terms of instruction and program development.

Less Description, More Theory

In addressing the question of what distinguishes adult learning from pre-adult learning, it is important that research move away from merely describing the phenomenon under study. Description is important, primarily as a basis for further conceptualizing or theorizing. As was demonstrated in the matrix discussion of previous work in adult learning, description alone has little explanatory power. Adult learning research should have as a goal developing theory that will enable us to understand how adults learn. This in turn will lead to predicting when, where, and how learning will occur and ultimately will lead to being able to plan for better learning experiences.

There are two major approaches researchers can take in building theory. One can take a theory already proposed and test it, or one can build new theory that can be tested later. In adult learning, as was seen in the discussion of the lower right section of the matrix, there are at least six "theories" of adult learning. Two are based on adult learner characteristics, two on the adult's life situation, and two on changes in consciousness. Very little has been done to test any of these theories; yet each has some intuitive validity and each does attempt a comprehensive explanation of adult learning. Gorham (1985), building on Beder and Darkenwald (1982), tested the assumptions underlying andragogy by studying how teachers interact with adult students versus children. Young (1987) experimented with transforming the perspectives of adult learners. Daloz's (1986) book is an explanation through case studies of the "transforming power" of adult learning experiences. Much more could be done, however, to test any of the theories reviewed earlier.

Research can also lead to building new theories of adult learning especially if one feels that existing theory inadequately explains the phenomenon. Spear and Mocker's (1984) research on self-directed learning resulted in a new concept, the organizing circumstance, to help explain the interaction between an adult's independent learning and his or her environment. Further work might lead to a more robust theory of self-directed learning. A recent book by Belenky and others (1986) explores how women learn. The authors present a five-part typology ranging from the mode of "silence" to "constructed knowledge." Since women outnumber men in many adult learning settings, it is important to understand their ways of knowing which may indeed be different from men's. Certainly the topic is ripe for more research.

While it is not within the scope of this paper to discuss how to test and/or build theory in adult learning, it is worth mentioning that the field of adult education is open to the use of any and all research methodologies. Survey research is most prominent, but there are good examples to be found of historical, philosophical, experimental, and qualitative studies. Neither are there any limitations on the nature of the data source; that is, historical records, artifacts, and such are as potentially valuable as data from interviews, surveys, or experiments. Underused in adult learning research are easily accessible data bases such as the Area Human Relations File (Murdock, 1982 and 1983), literary works, and quantitative data

sets on file at the University of Michigan through the Inter-University Consortium for Political and Social Research (ICPSR).

Theory building and testing around the central issue of what differentiates adult learning from pre-adult learning is essential to the field of adult education being able to define itself as a separate area of research and practice. One all encompassing theory of adult learning will probably never emerge. More likely, "there will be many theories useful in improving our understanding of adults as learners" (Cross, 1981, p. 112). It is in the *process* of inquiry that answers to some of our questions about adult learning will be found.

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The Electronic Age: Some Adult Education Research Needs

Roger Hiemstra

Introduction

One of the things impacting on my life right now is a continual need and desire to grow in an understanding of technology and its impact on adult education. This need has facilitated my thinking about several new study areas. Syracuse University is a fortunate recipient of one of those Kellogg grants that are having quite an impact on the field. Our project employs a lot of technology so I think you will find in most of my remarks some underlying technological implications. I also should be able to stay true to suggestions that we help build a research agenda concerned with learning, because many of the things I will say relative to technology appear to have some related connections. Thus, I will present several different points and try to make some linkages to adult learning.

Kellogg Foundation's Impact on the Field

There are now four institutions that have fairly large grants from the Kellogg Foundation. It is my understanding that there are going to be even more institutions receiving large Kellogg grants in the future so some of my concerns may take on an ever enlarging meaning. If you have been reading the literature and watching what's happening with the several adult education professors moving to accept Kellogg-related jobs, you know that the Foundation is having a big impact on the field. It seems to me that what has happened with this new infusion of Kellogg monies is a lot of excitement into which we all can tap. Much of this excitement and activity has some relevance to what this particular meeting is all about, setting a research agenda.

Certainly I think there is some new "professor" energy that is very healthy for the field. If you are at all familiar with what is going on at Georgia, Oklahoma, Syracuse, Montana State and some of the related institutions affected by the Montana State grant, and probably at several other institutions that are in some way impacted by the new Kellogg monies, there is considerable new vitality, activity, and promise for the future. I can list for you several people I know who have been very directly affected by the new Kellogg monies, many of whom are in this room today. This includes such people as Ralph Brockett, Gary Conti, Bob Fellenz, Sharan Merriam, Ron Cervero, myself, Huey Long, Tom Valentine, and two new people on the Syracuse University Adult Education faculty, Rae Rohfeld, an historian with a lot of background in adult education, and Barbara Florini, a specialist in the application of technology to adult education. I think both Rae and Barbara will have a big impact on the field in terms of the new research and thinking they will carry out themselves and stimulate in others over the next several years. Of course, there are other professors I have not mentioned who have been affected in some way.

The interesting thing about the professors I did note today is the fact that they represent a nice range of experience, with some relatively new to the field and some with lots of experience. In addition, their interests are quite varied, with both quantitative and qualitative research skills well represented.

There certainly are a variety of other professionals associated with these Kellogg Projects who will have a very noticeable "interdisciplinary" impact on the field, some of it very directly related to research on adult learning. For example, at Syracuse University we have an information science specialist, a computers and education specialist, two librarians, a public relations specialist, and a logic programming specialist all applying their specific skills to solve various adult education problems. Most of these "specialists" already are developing a good understanding of the adult education field and are becoming involved in related research. When all of these people plus the many graduate students currently in some way associated with the various projects begin to make conference presentations and write related articles, it will provide some useful interdisciplinary activities that will benefit the field.

We also are finding at Syracuse, and I am sure this is true at other places, that there is an attraction of new graduate students because of our

grant. Thus, we are going to have an impact on the field that in the long run will be very useful as we think through issues like building a research agenda for learning.

There is a potential problem related to the infusion of new Kellogg monies. I am glad there is representation here today from all four institutions because I think we must find ways to cut down on what I see as some overlap. For example, all four institutions currently are in some way thinking about adult learning. Now that is not necessarily bad and I think it even can be very good for the field, but if we happen to duplicate certain research or program development efforts, it seems an ineffective use of such energy and money. I hope that we can find ways of using the synergistic value of working together and thereby leverage the most we can out of the Kellogg monies for the field of adult education.

One other example seems appropriate here. At Syracuse University we are trying to build an electronic network for adult educators with a portion of our monies; Georgia, too, is establishing an electronic network. I suggest that such an endeavor in both settings has the potential of unnecessary overlap and we should find a better way of coordinating such activities. Thus, to summarize this area of concern, I think we must find some ways of linking these new energies and am sure that some of you have thoughts on how we could do this. Possible ways of achieving this include: conferences like this one; perhaps an exchange of faculty, staff or students related to these programs; connecting ourselves and other institutions that want to be involved with our activities electronically; or an exchange of newsletters and monographs. One came to my mind on the plane today; perhaps representatives from the Kellogg related institutions should periodically have meetings together. We could meet at Ó'Hare Airport to promote the coordination of various research efforts or even meet routinely via electronic conferencing.

The Impact of Electronic Technology

I need to begin this section with a description of the Kellogg Project at Syracuse University. In September of 1986 we began a five-year project funded by nearly four million dollars from the Kellogg Foundation. The project has three broad purposes: (a) to process, research, and provide broad access to the University's outstanding collection of adult education materials using laser disk and computer technologies; (b) to promote information exchange through computer-mediated communication and, as appropriate, through non-electronic means; and (c) to provide educational opportunities related to the project through visiting scholars, ongoing colloquia, and user training activities.

The Plexus Corporation in San Jose, California, is the primary computer vendor for the project's optical scanning activities. A large computer, several optical work stations, laser printers, optical scanners, optical storage units, and connections for various electronic exchange media make up the main hardware configuration. A phase that will be added in mid-1988 will provide capabilities for the optical storage of color slides, photographs, and audio taped information. The Plexus Corporation also is developing the software necessary for sophisticated retrieval activities by future scholars.

The storage process involves an optical scanner reading and digitizing the information contained on a sheet of paper (and later the information contained in slides, photographs, and audio tapes). The result of scanning a sheet of paper is what looks like a photocopy, except that the user sees it on a work station screen unless a request is made for a "hard copy" via one of the laser printers. The information actually is kept in the computer's memory in what can be referred to as a "bit-mapped" format. What this means is that for each square inch of a page the computer stores the information on a 300 point by 300 point grid. At each "pixel" location or point, the computer notes whether the image consists of a filled in space or a space that is not filled in. This "image code," as it is known, is then stored in a compressed version on an optical digital laser disk in "bit maps."

The bit map technology permits very dense storage such that hundreds of pages of information can be contained on a single disk. However, to be able to retrieve and see some document on the screen, print it via a laser printer, or have it sent to a remote site via some medium such as a fax machine, a user must have the capability of finding and retrieving the needed information.

Retrieval is thus based on word searches rather than searches of image codes. The software that is being created will permit project specialists to add words describing the images. These indexers sit at work station screens and record information about the images that will permit users a variety of search possibilities.

The system that we are developing will provide considerable flexibility to scholars interested in the adult education information that we have amassed at Syracuse University during the past three decades. Traditionally, information in archival and manuscript collections has been organized in terms of one piece of paper being filed or stored in one physical location. Such information typically has been organized in some logical order or structure such as an alphabetical or chronological order within some specified or necessary grouping of documents. Our system will permit the storage of material in an order that makes sense to our internal needs and the user can search via various means that make personal rather than institutional or bureaucratic sense. Researchers also will be able to retrieve documents much more quickly, and the absence of "hands-on" touching of documents should mean fewer chances of damage, theft, and misfiling.

Another exciting aspect of the system is the "scholar's workbench" facility. Using standard word processing software, split-screening capabilities, and electronic communication emulations, researchers will be able to record personal comments while viewing documents, make notes about important findings, tie such notes to particular images, group documents into named sets for storage or additions to a growing knowledge base, and manipulate such sets of knowledge according to personal search preferences. While online, the researcher also can tie to other computers for electronic mail or other information searching activities. A feature is being developed, too, that will permit users to exit to our university's larger VAX main frame computer for advanced qualitative analysis of the adult education information via software based on logic-programming principles.

Because of our attempts to use technology for the field's betterment, I think there are emerging some very direct implications for adult learning research. Becoming familiar with the technology I have described and the related terminology that will naturally evolve over the next few years will become increasingly important for many of us in terms of some of our future research efforts. Most of us as professionals in the field during the next 10 years are, in fact, going to be impacted by this technology in some way. Optical scanning and electronic retrieval is the future way that we are going to acquire, record, and transmit much of the field's information. Thus, you will no doubt need to find out about WORM and RAM drives, jukebox storage units, high speed networks, TCP/IP protocols, UNIX-based programming languages, and several other topics about which I knew absolutely nothing one year ago but now know at least something.

Helping ourselves and other adults survive with this rapid increase in technology suggests to me lots of learning implications or at least several research implications related to learning. How do we help adult learners understand technology? How do we help them learn to live with and use technology? How do we, ourselves, keep up with the impact of technology on lifelong learning and thereby on our jobs? These are some of the research questions that need to be addressed. By carrying out some related research, I am sure we will discover much more about adults as learners. This is especially relevant, in my view, for people 45 and older who have not had to have much of an interface with technology thus far. All of a sudden they are not going to be able to survive in many ways without some knowledge of electronic technology.

Let me illustrate this knowledge need with a very personal example. Most of you know what is happening in your banks in terms of the electronic flow of financial information or in the way you now access information such as through ERIC, your libraries, and other data bases. There certainly has been an exponential rate of technological development and growth that has impacted on society in many ways. This change has impacted on me, too. For instance, I purchased my first computer in the fall of 1981. I paid over $3,000 for an Apple II Plus, with 48 kilobytes of memory, just about the top of the line at that point. Now, as you know, the amount of memory that can be purchased today for a relatively small amount of money is almost staggering. I recently

purchased a little lap computer, a Zenith Z-181 with 640 kilobytes of memory; it cost about $1,700 and that included a built-in 1200 baud modem, lots of software, and several other luxuries. One of the professionals on the Syracuse project, Dan Vertrees, is now using a 45 megabyte computer that takes up only a small portion of his desk; it only cost around $3,000. Learning to survive with the advances in computer or optical technology that I have described, plus the many other developments impacting on the field, and learning to use such technology effectively, have become important issues for many people.

Recently I met with Steve Jobs and some of his colleagues in California. As some of you may know, Steve Jobs used to be associated with Apple Computers (he helped to form the company). He now has started another firm (Next) and is developing what is being called the scholar's work station. This will be a very advanced computer in terms of the terminal's flexibility, amount of memory, various connections possible with networks, high resolution graphics, and ability to display image data. Its price is supposed to be under $5,000, and whenever they say that, you know that a year later competition will probably result in the price being reduced by $1,000 or more.

I think there probably are some new forms of learning taking place related to the use of technology. This is just a guess of mine as I do not know very much about this topic. However, in terms of what is happening to me as I try to understand this rapid increase of technology, I believe learning is affected by the use or employment of electronic mechanisms in daily activities. I do not mean in a physiological or metaphysical manner, but I have come up with what I call "exchange learning" to refer to what I have experienced. This is my term and you may not want to buy it or may have a better name for it such as Mezirow's "perspective transformation."

At any rate, to explain what I mean let me describe it in terms of my own learning. For example, during the past few years I have found that every few months I have to "exchange" what I currently know about computers or optical scanning or electronic networking for something brand new because technological developments are such that what I now know is being replaced quickly. I hope that research currently is ongoing or will soon be initiated related to better understanding this notion of adults exchanging old information with new information frequently as there are, no doubt, things we can learn about helping adults better acquire new information. There also are lots of variables that I think could be studied in relationship to the effect of technological change on learning, such as age, gender, race, and educational background.

The Flow of Information

I believe there are several information transfer and dissemination issues about which we should know a lot more. How can we best describe the "images" in the Syracuse University adult education collection? How do we acquire, utilize, and "exchange" the information we need for daily living? How does technology support and impede the flow of information? Which of the various intellectual approach paths to finding information are most important? How will electronic users of the future want to look for documents or pieces of information? These are the types of questions we are beginning to address, and we hope others will look at them, too.

Another important issue is standardizing the way adult educators talk about things, or what the information science field calls "authority files." Finding things and also sharing information with others generally are easier if everyone uses the same form of a name, organizational title, or concept. Adult educators seem to have been very prolific during the past few decades at producing terms, acronyms, and many words for a single concept. One only has to look at all the various words that refer in some way to self-directed learning to understand the field's need for an authority file of terms and concepts. The building of common definitions or a thesaurus of words has been started during the past several years through organizations like UNESCO and ERIC, but we hope our project will make some major contributions in developing a common language. In fact, we have a large committee hard at work on such an activity.

One of the specific areas we are addressing pertains to how to transmit information to others most effectively. For lack of a better term I will

refer to this as "electronic scholarship." I believe this is something about which we need much more understanding. For example, how are information services provided in this current electronic age and what does that mean for researchers like ourselves or for other users of information? What are some of the underlying pricing and equity issues? What is the relationship of electronic scholarship to learning theory? Right now it is possible for most of us to use something like an ERIC data base or some other data bases presently in existence. However, such data bases are increasing all the time and we need to study the many resulting implications.

Another aspect of electronic scholarship is how information is actually disseminated. In the Syracuse University Kellogg Project we have developed an electronic journal for Adult Education graduate students. *New Horizons in Adult Education* is transmitted electronically through AEDNET, the project's network mentioned above. Its primary purposes are to foster ongoing discussions among people involved in adult education throughout the world and to distill various problems and issues encountered by students and professionals. The journal, conceived and run by students, is refereed and also offers an interactive bulletin board to encourage an active exchange of ideas. Anyone wishing more information can electronically mail a message to the editors (MICHAELE@SUVM or BIRD@SUVM) via BITNET or write to me at Syracuse University.

The introduction of an electronic journal to the field produces its own set of important questions. What are some of the related publishing issues such as those pertaining to copyright laws, citational requirements, refereeing of articles published electronically, and the nature of any evidence required for promotion or tenure if some of it is electronic in nature? What are the implications for potential contributors and readers who may have limited access to main frame computer communications? How can scholars not accustomed to electronic communication be induced to use such a medium?

There certainly are storage and retrieval issues related to the electronic flow of information. Understanding how to best store and retrieve information has turned out to be probably the very biggest issue for the Kellogg Project at Syracuse University; we could not have predicted that in 1986 when we were completing our negotiations with the Kellogg Foundation. I had expected that understanding the technology itself would be the biggest issue. However, delineating the field of adult education in terms of the authority file notions described above, identifying all necessary retrieval codes, and writing those codes in a manner that makes sense to a variety of potential users has turned out to be a very labor intensive process. In fact, we will spend almost as much for software development as for the hardware needed to support the project.

Another big issue that we have had to face is the fact that the hardware we plan to use is developing in complexity and sophistication at a rate much more rapid than the software. Thus, we realize now that there will be a constant need for software updates. There also are some complicated issues that have surfaced pertaining to how systems are connected together. To connect the optical system to our main frame computer has necessitated numerous individuals from across the university meeting together with representatives from our hardware manufacturer to coordinate efforts. Although such issues appear unrelated to adult education research, I believe there is a need for researchers to understand such complications if the study of technology as it relates to adult education is to proceed smoothly.

Emerging Research

There are a number of research needs beginning to surface for us and I'm sure for others interested in the dissemination of information that are only indirectly related to some of the hardware and software issues noted above. For example, controlling the access of information is potentially a big issue for us and for the field. There are many related policy questions that must be studied. I mentioned the term "equity" earlier. This is a concern for us in terms of who can and cannot obtain the information we will be either creating or making more accessible. In essence, we will be controlling the availability of adult education information without intending to do so.

There also is a research need related to how assistance will be provided and expertise established for people who need to utilize electronic

journals, telecommunications, optical scanning systems, and other electronic means of information flow. Who will do this? Will it be institutions of higher education? Will private entrepreneurs need to step in and provide appropriate in-service training? Some of our colleagues should begin worrying about such questions.

There are several new roles for adult educators related to the information flow concepts described above that I believe will emerge. One is an information counseling role in terms of helping others utilize the ever-expanding knowledge that is available. In our Kellogg Project several people will experiment with ways of working with people in searching for or using information. In fact, we will be able to serve people who do not have electronic access capabilities by having a professional and graduate student use the technology to find answers to questions and then transmitting the results via postal means.

Another future role has to do with the development of new or innovative administrative procedures for adult education managers. For example, leaders of the future will need to be able to incorporate such techniques as electronic conferencing, teleconferencing, and computer-aided information searching into their organizational activities. The building of computerized "expert" systems for data management, creating local area electronic networks to assist in central communication and data transfers, and electronic mail exchanges with other adult education organizations are additional activities that need to be studied or developed.

The very means by which learners use and acquire information also will be affected through the types of changes described here. For example, we are developing a distance education program as a part of the Kellogg Project at Syracuse University. Although our program is still in the conceptual stages, we know that we will use some form of electronic information exchange for students to access the knowledge related to any course work and for instructors to communicate with the learners.

There is another area that I would highlight as an area of consideration for tomorrow's research agenda. Although the connections of this area to the technological themes I have focused on today are not completely clear in my mind, it is an area of research that several others and myself have been interested in for a long time: continual research on self-direction in learning. Obviously, the topic has been studied for many years by many people; however, I think there still are very important questions that need to be studied.

For example, and here is a potential connection to the technological themes, I believe that the whole notion of being able to access a wide variety of data has lots of connections to some of the current findings related to self-directed learning. In the very near future our project and others like it will result in an individual having access to perhaps much more information than can ever be processed or understood by a single human mind. This presents many research opportunities. An important question that must be answered is how do we as adult educators help users understand the learning requirements associated with processing and using appropriate information. There also is, in my view, a very chaotic proliferation of information and information resources. Various commercial groups offering networks or data bases are springing up quite steadily. Each may well have a slightly different protocol than the other that you have to learn different ways of using them. I do not know if adult educators can have an impact on this other than communicating our concerns to software programmers and others. Maybe we can insist upon more standardization in terms of what is happening with information dissemination and resources.

In conclusion, I think there are many future research topics for the field of adult education to address. We have raised only a few of them today. We must do a lot more on understanding how the physical environment affects adult learning. I continue to be interested in older adults as learners and think there is much future work needing to be done. There also is much potential research related to the history of the field that will be carried out with considerable zeal in the next decade. Hopefully, meetings such as this will be instrumental in promoting some of the needed study efforts.

Media Literacy, Adult Learning and Critical Thinking: A Crucial Connection for Research and Practice

Stephen Brookfield

Introduction

One of the central tasks of adult education is to help people recognize and assess critically the forces which have shaped the ways they view their personal, occupational and political worlds. If we are trying to assist adults to understand how they have developed their value frameworks, belief systems and habitual behaviors, then one of the chief domains we must explore is that of the media, particularly television. Adults' structures of understanding, meaning schemes and frameworks of interpretation evolve as they encounter different socialization forces. While ample attention has been paid to socialization agents such as the family, school, religion and the work place, the influence of television is only just beginning to be appreciated, let alone understood.

The last three decades have been qualitatively different from any others in human history in that large numbers of adults are simultaneously receiving messages, viewing images and interpreting narrative commentary, which fundamentally affect how they view and create their personal and social lives. In the political realm in particular, the mass media are the chief means by which most people receive their information regarding what issues, disputes and ideological interpretations are important in this area. Television has substantial power to shape the agenda for public political discourse and to develop in viewers analytical modes by which they interpret, make sense of and understand this discussion. This paper discusses the ways in which television helps to shape adults' world views, particularly in the political realm, and it offers some suggestions as to how adult learners might be helped by educators to view television with a greater degree of critical detachment and scrutiny. As we become more and more deeply embroiled in a society which is saturated with media messages, understanding and fostering the development of this capacity for critical viewing - hereafter called "media literacy" - must be one of the most crucial concerns for researchers and practitioners in adult education.

Media Power

The focus of these comments is primarily television, though many of the same comments could be made of other mass media such as radio, the press and even cinema. The mass media, particularly television, must not be seen as a river of messages, symbols and images into which we occasionally take a dip, but rather as an ocean in which we perpetually swim. We cannot isolate the effects of television on behavior as if there was a linear, cause and effect relationship. As two decades of research into the effects of television on encouraging violent behavior have demonstrated, what are of equal or greater importance in shaping behavior are the contextually specific features of individual lives. Class allegiances, peer group relations, ethnic identity, familial circumstances and economic condition (not to mention bio-chemical or physiological factors) interact in a complex causal web. Hence, we cannot say with authority that someone voted for a particular presidential candidate solely because of that candidate's television appeal.

In a more subtle, perhaps insidious manner, however, television has penetrated contemporary consciousness to a remarkable degree. In adulthood it is possible for many of us to chart the development of aspects of our political consciousness through television events which were, for some reason, significant in framing the way we perceived the political world. Television plays a crucial role in framing the context within which we define what are seen as significant issues and important problems in the political realm. Political issues, policy disputes and estimations of success or failure are frequently grounded in television events such as televised press conferences, major policy speeches, filmed confrontations between strikers and police or demonstrators and police, and televised interrogations of politicians. Geraldine Ferraro marked the "real" start of her 1984 vice-presidential campaign with her successful press conference regarding her full declaration

of her family's tax information. The recent Gorbachev-Reagen summit was judged as successful or disappointing almost solely in terms of the subtleties and nuances of gestures and behaviors which television could relay in a magnified form, particularly since a formal news blackout was imposed during the Geneva conference, (How long did they shake hands? How close to each other did they stand? Were their smiles warm and genuine or merely forced?). Nixon's 1952 "Checkers" speech, his behavior during the Watergate investigations, Muskie's crying in public during the 1972 Democratic Primary, Ford's stumbles and trips in the 1976 election campaign, Carter's public collapse during a jogging session, and Mondale's static television persona are all instances in which presidential office holders or candidates had their personal frailties exposed by television to their long-term political disadvantage.

Television helps to create the framework within which political discourse occurs, it provides information on which viewers and readers are expected to base their judgments concerning these issues, and it provides a spread of opinion from which individual viewers select those ideas which seem most to correspond with their own view of reality. Television frames the context within which "relevant" or "important" issues are identified, it provides selected information on those issues, and it presents apparently "objective" reportage of events pertaining to those issues.

In the process of political socialization in adulthood, television plays an important role. Individuals are socialized into political culture (developing party allegiances, participating in local organizing, and inculcating appropriate values and ideologies) in the family, neighborhood, school and work place. By the time of adulthood, many individuals have already evolved their own fairly entrenched attitudes and beliefs concerning political matters. Barring cataclysmic revelations (such as those surrounding the Watergate affair) these attitudes and beliefs are enduring. Political allegiances are frequently lifelong and they attain the status of unquestioned givens in adulthood for many people.

Television functions as an agent of political socialization on two levels. First, it inevitably mirrors the dominant values of the society in which it is embedded. Views of the world and interpretations of political events which would be considered radical or strongly divergent from the values and attitudes of the mainstream culture rarely receive expression. News broadcasts in the Soviet Union and United States which deal with strategic arms limitations do not grant air time to politicians from the opposing country to speak directly to the civil populace. The actions of each side are interpreted and presented to viewers from within the framework of the host culture's prevailing assumptions. Hence, each side regards the other as ruled by an expansionist ideology, bent on world domination, and motivated by a cynical opportunism in any negotiations which take place.

Second, the logic of television serves to operate in a more subtle, insidious manner to shape the way in which we come to understand and analyze political matters. Primarily, television encourages adults to view political issues, disputes and events in a simplistic and unidimensional manner. Issues rooted in ideological or strategic differences are presented as personality conflicts. Policy questions are encapsulated in thirty or forty-five second summaries on the evening news. Most worriedly, events within the political world are presented as if they were in a separate dimension, a twilight zone of unreality into which mere citizens cannot venture.

Viewing a series of reified images of political overlords on a television screen obscures the connection between the individual's political powers and the actions of local and national leaders. Watching leaders from the superpowers discuss the relative strength of their nuclear arsenals sandwiched between commercials for deodorants and shows such as *Wheel of Fortune* or *Entertainment Tonight* inculcates an air of unreality to the viewer of political life. Learning about this life through a technology which cannot be comprehended by most encourages a sense of disconnectedness to the events portrayed. It fosters a belief that the proper status of citizen-viewers is one of passive observers, tuning in nightly amid game shows, situation comedies and soaps to discover how the world has been reshaped for us each day by our political masters.

It is all too easy, however, to grant to

television an inordinate amount of power and to fall prey to a pessimistic determinism whereby viewers are seen as passive dupes of cynical programmers who manipulate the consciousnesses of viewers by providing a steady diet of game shows and mindless situation comedies. According to this analysis, television is a major business enterprise and concerned, therefore, to broadcast programs which either uphold the values of the dominant capitalist society or serve to divert people's minds from the inequities around them. According to this latter argument, television is intended as a tranquilizing palliative to help those caught in the contradictions of advanced capitalism more easily to bear their poverty, unemployment and sense of alienation.

This argument does not allow for the possibility of audiences being sufficiently critical to decode media messages skeptically; neither does it recognize that some of these alienated, disenfranchised adults may simply ignore the programs designed to lull them into uncritical stupefaction. There are a number of ways in which programs are decoded by viewers who interpret television messages from within the context of their own culture, economic situation and personal lives. Some adults exhibit negotiated codings in which credence is given to dominant values within news broadcasts ("America needs a balanced budget") but which contrasts these values with their own positions ("My local day care facility is being closed so now I can't go out to work anymore"). Others engage in oppositional decoding in which television messages are interpreted within a framework wholly different from dominant cultural values. An example of this would be a nuclear freeze activist who interprets every governmental mention of the need for deterrence and a strong defence as indicative of the military-industrial complex successfully preserving its interests.

The view of television as a cynical transmitter of dominant ideology which is uncritically assimilated by a stupefied audience is misleading and overly deterministic. It regards media producers and directors as robotic automatons, working diligently to preserve the power of ruling elites. It denies the possibility of educators working to assist adults to analyze critically the power and influence of television. What is often referred to as "hegemony"--the manipulation by the dominant groups in society of "common sense" ideas and values to support their position--is continually resisted, limited and altered by circumstances and forces beyond the control of these groups. A casual scrutiny of television comedy programs reveals that certain shows challenge the values and institutions of the dominant culture. Programs such as *Saturday Night Live, SCTV, Soap* and *Mary Hartman* (in the U.S.) and *That Was the Week That Was, Monty Python's Flying Circus, Spitting Image* and *Not the Nine O'Clock News* (in Britain) would be examples of emancipatory comedy. Gitlin's (1983) study of *Hill Street Blues* shows how episodes in which assumptions and stereotypes of ethnic minorities and criminal subcultures were deliberately challenged, simplistic explanations of criminal acts were rejected, and neat resolutions to social problems abandoned reflected the philosophy of the show's producers and writers. Similar comments may be made about the *Lou Grant* show.

Television production may be viewed as something of a psychosocial drama. News programs and reporting of political life certainly do mirror dominant values, and only rarely is there sustained criticism of prevailing social structures or governmental actions. The research of the Glasgow Media Group (1982) has demonstrated how television news broadcasts emphasize views and interpretations of events supportive of what they perceive to be a public consensus and how alternative divergent or radical interpretations receive only limited exposure. Nonetheless, opposition and resistance is sometimes evident as producers, writers and directors attempt to produce programs adopting a stance critical of prevailing stereotypes or structures. Films such as *Threads* or *The Day After* (both dealing with the effects of nuclear war and shown despite government disapproval) and shows such as *Sixty Minutes, Donahue* and *Nightline* give air time for the expression of views critical of government policies, actions or representatives. *Donahue*, for example, recently featured Daniel Ortega, President of Nicaragua, interviewed live and speaking directly to a prime time audience of millions of Americans. Dan Rather's interview with Fidel Castro on *Sixty Minutes* and Ted Koppel's *Nightline* broadcasts from South Africa

(featuring confrontations between black activists and white politicians not usually allowed in South Africa) are further examples of this kind of oppositional programming.

Television production, then, seems to be something of a transactional encounter. Advertisers and network executives certainly exercise enormous power over producers, writers, performers and directors. Yet it is clear that power relationships are not static and that oppositional programs are created. Such programs are powerful examples of critical adult education in action. They present viewers with ideas and interpretations which appear to be critical of, and to contradict, governmental justifications for actions, societal structures and prevailing stereotypes. There is a clear connection between these kinds of programs and the prompting of critical awareness as the central purpose of adult education. The concept which informs and elaborates this connection is that of media literacy.

Media Literacy

Media literacy is a shorthand term used to refer to the possession by adults of a degree of critical awareness regarding the products of the mass media, the potential for manipulation of viewers' and readers' minds inherent in the operation of the media, and the realization that media depictions of reality are inevitably selective. In terms of television's reporting of the political world, adults who are media literate have developed decoding strategies whereby the content of news broadcasts, current affairs programs, and coverage of the political world can be assessed critically. These adults are not necessarily definitively knowledgeable concerning major policy issues of the day. To require this would mean that they resign their jobs and give up their family and personal lives to study politics. These adults do have some awareness, however, of when political interactions are regulated in terms of personality, of when simplistic readings are being given of complex questions, of when images are taking precedent over substantive discussion, and of when the pursuit of apparent "objectivity" is masking the presentation of a consensual viewpoint from which is excluded deviant or "minority" opinions.

Some specific indicators by which media literacy might be recognized are the following:

- Adults exhibit a skepticism of attempts by anchormen, commentators and news presenters to oversimplify policy disputes, ideological conflicts and explanations of political behaviors so that monocausal explanations or unidimensional analyses are scrutinized critically.
- Adults examine political reporting for its acknowledgment of the importance of context, so they question the presentation of ultimate, universal or final explanations or verdicts on issues.
- Adults are aware that a variety of ideological interpretations are possible on most issues and events. They realize that the same events could be reported in many different ways according to the ideology (for example, liberal democrat, socialist, capitalist, communist) of the presenters, networks and host cultures involved.
- Adults possess an awareness of the cross-cultural complications which can arise when the actions and values of other cultures are interpreted in an ethnocentric fashion; that is, from within a framework comprised of values, expectations, modes of explanations and beliefs of the viewer's culture.
- Adults engage in regular discussion of the media's depictions of the political world. They possess the inclination, capacity and opportunity to explore television's presentation of events, policies and issues, and the alternative interpretations that might be made of these presentations.

Such conditions appear to be the minimum that should be specified as indicators that adults are media literate. These conditions are all interpretations of the general features of critical awareness. Media literacy is simply an attempt to apply the features of critical awareness (being aware of the contextually and culturally constructed nature of values, ideas and behaviors) to television's images of the world. For adults to be politically knowledgeable citizens fully able to participate in democratic processes, the development of some degree of media literacy is crucial.

Techniques for Developing Media Literacy

The importance of developing media literacy

among adults has been acknowledged by Masterman (1983), Brookfield (1986) and Robinson (1986). Specifying the ideal conditions of media literacy is of little use if all this serves to do is to elicit agreement on the importance of this task from educators, without any attempt to demonstrate how this might be achieved. In this section a number of suggestions are made regarding how adults might be helped to participate in the deconstruction and decoding of television messages. Deconstruction refers to the individual's ability to understand how television programs are put together, how selection and exclusion are implicit elements in production, and how judicious editing produces the mirage of a seemingly objective report. Decoding refers to the ability to realize how images, the juxtaposition of narrative commentary and visuals, and the emphasis upon certain viewpoints constitute a framework for presenting messages to viewers. Through attention to such factors as how certain spokespersons are most often used to present a case or the apportioning of time in news broadcasts to allowing parties to a dispute to air their views, adults become aware that certain interpretations of news events are implicit in how these are reported. Masterman (1983) points out that through such techniques as juxtaposing narrative reportage of events (such as an industrial dispute) with provocative images (such as picketers shaking clenched fists at the camera or shouting at employees crossing the picket line) television defines "the way in which these events should be discussed and the interpretative frameworks which should be brought to bear upon them" (p. 209).

Central to this process of adults speculating on how and why television emphasizes certain viewpoints, explanations and messages in reporting of political events is their beginning to wonder why other views, explanations and messages are excluded, and how supposedly "objective" reporting of events might have taken on a very different hue if a different perspective had been adopted. Once learners begin to question why certain views and interpretative frameworks appear dominant, this is likely to lead to "a consideration of those voices *not* heard in the media, and to those which *are* heard, but which form part of a "secondary" discourse which it is the privilege and function of the medium's dominant discourse to place and evaluate for us" (Masterman, 1983, p. 210). A number of simple exercises which need only a videocassette recorder (VCR) for their accomplishment can be used with adult groups to assist them to develop deconstruction and decoding techniques.

Analysis of Moderator Behavior

One idea is to ask groups to undertake detailed analyses of how studio anchorpersons, chairpersons, interviewers and presenters function as mediators of debate and discussion. Panel discussants on shows such as *Donahue* do not typically address viewers directly in a full face camera shot. Instead, the presenter controls the interaction, directing the flow of questions, choosing which themes to explore further, and restating opinions and meanings originally uttered by discussants. An analysis of Phil Donahue's behaviors in discussions and a study of how various show's themes are shaped by his questions, summations of views, and calling on members of the studio audience to contribute on certain questions would be highly instructive in familiarizing learners with the idea that discussions do not just "happen" naturally but that they are created artifacts.

Analyzing Interview Settings

Another feature of television texts which learners could analyze is the way in which the physical surroundings of interviews (whether they take place in quiet, well lit boardrooms, noisy factory floors, or picket lines) contain implicit assumptions regarding whose views are the most authoritative and credible. What assumptions are contained in reportage of an industrial dispute in which interviews with management take place in sedate, well-miked offices and interviews with strikers take place as group interviews on picket lines with a measure of extraneous noise?

Analyzing the Juxtaposition of Narrative Commentary and Images

Learning groups could also study how narrative commentary and visual image are juxtaposed to create powerful messages. What effect is created when a narrative commentary of the numbers, location and apparent causes of an industrial dispute is accompanied by shots of pickets shak-

ing their fists and shouting at workers entering the factory gates? Again, the impression that demonstrations as a mode of civil expression of opinion are inappropriate because of their innately violent nature is easily conveyed by juxtaposing narrative commentary on the numbers involved, location, and focal issue of a demonstration with pictures of demonstrators charging police cordons, making clenched fists, and fighting with counter demonstrators. Even if a narrative commentary points out that the majority of demonstrators were peaceful in their behavior, this caveat is overshadowed by the power of the visual image.

It is overly paranoid, however, to conclude that news producers are in league with establishment representative in government, industry or the police force in some kind of campaign to discredit strikers or demonstrators. What is much more likely to be the case is that this use of provocative visual imagery to accompany a spoken commentary is a function of the inevitable logic of television. Television is, after all, primarily a visual medium, and "good" television is generally thought to be that characterized by dramatic visual imagery. Interviews with union organizers who carefully elaborate their members' grievances or studio based explorations with the leaders of pressure groups of the merits of their causes are less dramatic (and less successful in television terms) than film of clashes and confrontations. "Good" television, according to the logic of the medium, is that which imprints powerful visual messages on viewers' minds. "Talking heads" (studio interviews with individuals) take second place to location shots.

The application of simple content analysis techniques to studying political reporting on television is an exercise which could be tried with many adult learning groups. It is easy to imagine a group dividing among themselves to monitor a week's news broadcasts on the three major commercial networks. Different members could record the numbers of interviews with different parties to a dispute, the kinds of explanations of events most frequently offered, the kinds of stories which were featured most prominently, the spokespersons most often appearing, and the way in which certain stories rose to prominence over the week before being replaced with newer items.

Using Video to Produce News Reports

One useful means by which learners can become familiar with this internal logic of television is to involve them in producing their own news reports of events. As cameras, videotape and VCR's become more reasonable in price (and certainly within the price range of many adult educational centers) it is possible for groups to construct their own short programs concerning local or even national political events. Jarvis (1985) describes an exercise used in the British Open University where adult students are divided into three groups representing the news networks of Britain, the USSR and the USA and given a series of photographs of a strike. They are then asked to prepare a news report for broadcast on the television networks of their respective countries. Through careful editing of photographs and use of ideological commentary, very different stories are prepared using the same materials. Through being asked to prepare short programs on news items, learners would very quickly become aware of how, through editing, selection and the writing of commentary in certain ways, news programs should be viewed as constructed realities.

A vivid treatment of the personal and collective power that can be released when adults are encouraged to use video to produce programs that are reflective of their own experiences is given in Heaney's (1983) account of the Rockford Interactive Media project. In this Illinois community people learned to use videotape recorders "to create materials that would enhance critical reflection on day-to-day life and, at the same time, foster learning and understanding among others outside the community, especially government officials and persons with power" (p. 41). Heaney writes that "people with newly found voices are like lions let loose" (p. 43) and that these video tapes became "the voice of an otherwise silent community" (p. 42).

Autobiographical Analysis

Finally, educators might like to experiment with techniques of autobiographical analysis as a means of developing media literacy. Through this technique adults are asked to identify moments in their lives when their experience of the world vividly contradicted what was portrayed on

television. In groups in which this technique has been used in this writer's own institution, the contradictions and dissonances chosen by learners tend to be those concerning familial life rather than political culture. The depiction of family life on television as existing in extremes either of debauched trauma (as in many soap operas such as *Dallas*, *Dynasty*, or *Flamingo Road*) or of idyllic harmony (as in programs such as *Family Ties*, *Happy Days* or *The Waltons*) is criticized for its evident unreality. Adults currently in their thirties and forties can remember contrasting the gentle banter and affectionate interchanges between spouses characteristic of 1950's family comedies such as *Ozzie and Harriet* or *Leave it to Beaver*, with their own remembrances of much less placidly affectionate parental relationships.

Once the technique of learning to identify elements of dissonance between television's portrayal of family life and viewers' own experiences is practiced, the possibility opens of attempting this mode of critical analysis in other spheres of life, particularly the political. Following on the realization that television's depictions of marital relationships and family interactions are flawed, selective and reflective of certain values and assumptions held by producers, writers and directors may come a greater inclination to question the apparent objectivity or television's reporting of political events. If the habit sets in of asking questions concerning the biases and world views of producers of situation comedies, then it becomes considerably easier to speculate on which stories are *not* considered worthy of coverage in the news, which assumptions inform decisions to provide air time for the expression of certain views, whose interests are best served by the way in which conflicts or disputes are reported, and what explanations and interpretations might be offered of events which are alternative to those provided by reporters, commentators and presenters.

Conclusion

No better example of the need for adult educators to become centrally concerned with the development of media literacy among learners can be imagined than that provided by the 1984 American presidential election. The Republican Party campaign managers, in particular, were most open regarding their reliance on creating media images of leadership, prosperity, family contentment and patriotism as their chief campaign tactic. James Lake, press secretary for the campaign, declared that the priority for any candidate seeking election was for him or her to define a vision of America on television and persuade the television audience to subscribe to that vision (*New York Times*, September 23, 1984, p. 32). The commercials for the Republican campaign were essentially concerned to project this vision, characterized as they were by images of tranquil harbors wreathed in mist, happy families and sunlit suburban neighborhoods. Absent were images of inner city poverty, closed welfare facilities, decrepit public transport, unemployment lines and shut down factories. Later in the campaign an 18 minute documentary style political advertisement featured elements of President Reagan's address to the national Republican convention and the closing singing of "America the Beautiful." The *New York Times* described it as "overpoweringly warm, patriotic, romantic, nostalgic and confident...the most luxurious, symphonic and technically proficient political commercial ever made" (September 14, 1984, p. A18). David Gergen, White House Director of Communications until 1984, has declared that government, not the media, must set the agenda of news and public policy issues for discussion (*The Village Voice*, September 18, 1984, p. 10). To this end, every Republican campaign spokesperson and administration official were briefed on the issue of the day each day during the 1984 campaign. This meant that at every press conference, private briefing and televised speech the same issue (pollution day, education day, crime day, or communist expansion day) was addressed by spokespersons, almost irrespective of the questions asked by reporters. In this way the campaign managers tried to set the agenda of campaign "issues," rather than allowing the media, pressure groups, or public to do this.

It is important to say that these kinds of activities are present in all political parties; indeed, the post-election analysis conducted by the Democratic Party emphasized most strongly how the Party should have a more proficient command of such television techniques in 1988 if they are to stand a chance of winning. The ethical and

philosophical correctness of the ideologies and policies of either of the two parties in the election are not at issue in this discussion. On every matter of public policy, a range of interpretations and ideologies will come into play. The fundamental danger with which educators should be concerned is that of substantive discussion of contrasting political views being replaced by a concentration on the evocative power of certain images. If campaign managers are allowed to use television as a means by which they can create an appealing vision of America as they would like to see it portrayed (firm, compassionate, or prosperous), then adults need to be able to be aware that this is happening. The danger is that discussion of alternative ideologies and viewpoints on substantive public issues will be replaced by a simple affirmation by political representatives (of whatever party hue) of appealing images and evocative concepts (patriotism, leadership, or strength).

Television which is openly polemical and which offers only one ideological perspective on the world such as seems to exist in totalitarian regimes is clearly anti-educational. As has been made clear, this is not an accurate view of television in the U.S. Programs regularly appear which embarrass the administration of the day, which challenge contemporary stereotypes, and which criticize various existing structures or practices. The concern of adult educators in fostering media literacy is to encourage adults to view programs as constructed artifacts which contain within them certain inevitable biases and ideological preferences. Adults should become used to asking questions such as: Who decides that a story is "news"? What interpretations of events and explanations of policies are most frequently given? What other perspectives might one take on various stories? How are spokespersons for various interests chosen and who is left out in this process? Asking such questions is not dangerously radical or revolutionary, merely democratic. Inherent in the concept of democracy (and, incidentally, to education) is the free exchange of opinions, ideas and alternative interpretations of aspects of the world.

Through adult education individuals learn to reflect on the construction of their personal, occupational and political worlds. They come to view their worlds as, at least partially, culturally constructed and not as divinely ordained or superimposed. Given the predominance of the mass media, particularly television, as a means by which many adults learn about aspects of the world (particularly the political), adult educators have no choice but to become engaged in fostering media literacy. Television has to take its rightful status as one of the major framers of consciousness in our society. It is against televisual images of correct behaviors, attitudes, poses and opinions that we frequently measure our own lifestyles. It is from television that we obtain a sense of what are important political issues. It is through television that we come to know the public persona of political leaders, and it is on the basis of information obtained from television that we make some crucial decisions regarding our political activities, whether these be voting, choosing to campaign for party interests, organizing advocacy groups or deciding to turn our backs on the political world because of its apparent cynicism and lack of responsiveness. As stated earlier, learning wholly of the political world through a medium over which we feel we have no control or influence (other than that of switching off) may easily lead to the conviction that political decisions and events are wholly outside our sphere of influence (causing us to switch off and detach ourselves politically).

Learning more about the connections between viewing television and our actions in the real world is a crucial area of research for anyone interested in how adults develop their consciousness, particularly their political consciousness. Studying how television messages are decoded by adults is a critical need for the future. Additionally, adult educators might profitably become more involved in creating and supporting media study groups. It is surely not too outrageous to envisage a situation where each adult education program in the country which is publicly funded has, as an accepted and essential component, an opportunity for adults to come together and explore their perceptions of, and reactions to, television's portrayal of family life or political events. These groups need not be formally constituted as a class. It might be that they follow more of a study circle format, in which someone takes the initiative to propose temporary agenda initially, as a way of prompting discussion. The leader of such

a group would be an issue facilitator rather than a formal teacher. The ideal would probably be for different members of the group to take responsibility in different meetings for leading an exchange of experiences on some particular aspect of television, probably focusing on the misrepresentation of some particular aspect of the world which they see on the screen. In time, it may be that groups will decide to engage in one of the kinds of action projects mentioned earlier, such as producing their own program or undertaking content analysis of how television treats particular issues, or treats particular groups. Whatever the form such activities take, the attempt to understand how television frames adult consciousness and the fostering of a critical awareness of and reflection on this framing are concerns central to what has been perceived by many as the true function of adult education.

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Response to Discussion: A Reactor Panel

Panelists: Stephen Brookfield, Roger Hiemstra, and Sharan Merriam

Questioners: Staff members of the Kellogg Center for Adult Learning Research

During the symposium, each of the three guest presenters spoke for approximately 45 minutes. As soon as the presentation was completed, the audience broke into small groups of six to ten members and discussed their reactions to the presentation. Each group was led by a member of the Montana State University staff. Group membership remained the same for all three discussions. After the three presentations, the discussion leaders served as members of a reactor panel. Issues raised during the discussions with the audience were intergrated into questions and posed to the panelists.

Question: Several times during your presentations the topic of self-directed learning has been raised. Apparently there is some disagreement among you about where we are with research on self-directed learning. Our group would like to hear you interact on whether we have developed a basis for theory on self-directed learning.

Brookfield: Basically I have argued that self-directed learning really is an undefinable concept in that it is empirically unobservable. Although I did a dissertation on self-directed learning and have written several things on it, the more I think about it and analyze it, the more convinced I have become that there is no such thing as a discreetly separate, self-directed learning act. There are acts of learning in which what we might call self-direction alternate with other directed activities. If I was asked to point to something in the empirical world which I could call self-directed learning, nothing but self-directed learning, I would be unable to do that. So I don't think that there is a research and conceptual base for it, and I certainly don't think there are any theories of self-directed learning--if you view theories as general explanatory laws which account for a part of the world.

What we have are a lot of prescriptive propositions about the value of self-directed learning and the need to encourage it. A couple of decades after Allen Tough looked at this phenomenon, we really have not made much theoretical or conceptual advancement in understanding it. I now prefer not to use the term because I do think it is riddled with conceptual flaws and I just cannot find examples of it empirically.

Hiemstra: My stand has been not to worry about whether or not there is an underlying theory. About 1978 I decided to set up what I call my 15-year research agenda in this area--just to understand more about what's going on. Not in a theory building stance but just to understand what's going on. I now have about 15 dissertations that have been completed and another four or five that are underway looking at different aspects of self-directed learning. I think a lot of what Steve has mentioned is true; for example, the fragmentation and notion that some people are encouraging people to be self-directed without really understanding what it means. People are grasping for measures, like Guglielmino's Self-Directed Learning Readiness Scale and Oddi's Continuing Learning Inventory without really understanding what they are measuring or whether they are good measures or not. I think what I'm starting to come to now is to synthesize a lot of that material and come out with some definitive kinds of statements. Ralph Brockett and I are going to try to put together some of that, but I have not worked from the notion of theory building. I've tried to understand what is going on with what people call self-direction in learning.

Brookfield: I think it is very interesting that you use the phrase "self-direction in learning" now rather than self-directed learning. Self-direction in learning is something I can understand much more readily and would feel more comfortable using myself. It doesn't imply the phenomenon, and the discussion is totally separate.

Merriam: My only comment would be that there is general confusion about self-directed learning, self-instruction, self-education, learning projects, and I don't know how many more synonyms. I feel a great need for somebody to

bring some clarity to what it is we're talking about. Perhaps the two of you can bring some clarity to the concept and the phenomenon so that we can have a common ground for looking at it. Then we can worry about measuring it. Now, we have these scales around measuring readiness for self-direction, and I'm not sure what it is we're measuring. I think we need to conceptualize the phenomenon before we go out and test it and measure it or whatever.

Hiemstra: I can say a fair amount about what the Self-Directed Learning Readiness Scale measures, but I am not sure we want to call those portions of self-directed learning constructs. There are some very direct ties to various kinds of behaviors ranging from self-concept to help-promoting behaviors that people have attempted to measure. We know something about what it is they correlate with, but we don't really know yet that basic construct that some might call self-directed learning.

Question: In doing research on technology and adult learning are we becoming too obsessed with looking at certain small groups and seeing issues that might be of concern only to that small group?

Hiemstra: Let me start by saying I argue with that notion. I was part of a project and spent a month in Tanzania observing the impact of technology on that culture. It literally leaped over a lot of the infrastructure problems that existed because the technology transformed communication within the society. The Tanzanians, once they got over some of the initial fears and hesitations, very quickly learned how to utilize technology to leap over problems they had with transportation and communication and so on.

Brookfield: What interests me in how people deal with technology has less to do with the psychomotor domain as with the affective and cognitive domains. In other words, how does interacting with technology affect one's self-image? I'm interested in that because I'm like the Tanzanian Roger described as being terrified of technology. I decided at 17 I wasn't going to learn to drive a car and gave up driving lessons. Mastering an Apple computer was a real revelation to me that I could do some of these things. So when I hear all of the research that is being done on technology and the applications of technology, my eyes do tend to glaze over until people talk about the emotive dimension to it.

Question: As beginning researchers we thought you could help us by telling us what you used to determine your own personal research agendas. What drives your research? What resources do you use?

Hiemstra: When I first started as a professor in 1970, I was driven then by a kind of schizophrenic need to find things that would allow me to publish so I didn't perish. I flitted around from project to project my first three or four years just so I could get some quick and dirty articles out so I could make tenure. After four or five years in the profession I began to focus in and primarily work with older adults as learners. My motivation for that came from working with that particular age cohort in a number of ways. The more I found out about that group, the more interested I became. That led me to read journals outside of and within the field that related to the area. Finding that one focal point for five or six years was very helpful to me. Now, even though I've branched off into some other areas, I've always tried to maintain some relationship with that age cohort.

A trick that I used was to keep a journal or diary. When I read various journals, I would take notes to myself that I used to generate ideas. I don't do that as much anymore because I don't have the time that I had then. Now I think I get a lot of my stimulation from reading good papers of students. That's one of the shortcuts that I had to utilize because I don't have time to do as much of the professional reading as I'd like.

Merriam: That's a good question. I broadly define research as systematic inquiry because a lot of the work I've done is not empirical data collection but more a putting together in a different way the material and thoughts that I have been working on. If I think back over my efforts at such research, a lot of the stimulation comes from my teaching. Number one is trying to find appropriate materials for use in certain classes that I have taught. For example, I don't know what text to use; I'm pulling from all over the place, so I say to a colleague: "You know, we need a good book in...." Rather than waiting for somebody else to write the good book in..., I've gone out and written some. A second motivating

thing for me is seeing my role as something of a translator, i.e., trying to make some of this information or literature understandable to myself first and then in my teaching to whoever might want contact with it. The best example of that is the material on philosophy that I spent hours trying to understand and then said to myself, "I want to be able to translate this so someone else can understand it." In this process of translating and responding to what I perceive as gaps in our field, I've also found some topics that are of real personal interest such as the area of adult development. This has become a real interest of mine.

Brookfield: When I was a graduate student, my master's degree was in sociology, and I was set to do a doctorate in sociology. Then I started to teach adults in the evening to earn money to pay for my research. I read and thought more about it, and as I did so I realized that if I went into the field of sociology, I would be maybe one of hundreds of thousands of sociology students. Very quickly I would be pigeonholed into a subspecialism of a subspecialism of sociology. I'd have to be a sociologist of education, a political sociologist, a sociologist of work or whatever, and within that area I would have to focus in on some specific area. I realized that if I went into adult education and adult learning, it was substantially so wide open I could bring lots of different perspectives and lots of different ideas and concepts from a whole range of allied disciplines to bear on this particular phenomena, i.e., how adults learn and how we plan to facilitate that learning. So I just decided not to do a doctorate in sociology and do a doctorate in adult education instead. I still have that feeling about the field--that it is a wonderful field to be researching in because there is such an open-ended quality to it which is also one of its frustrations. There's no accepted research paradigm which you can take neatly, put onto a doctoral dissertation, and presto you have your degree. That in some ways is frustrating, but on the other hand it's enormously liberating to feel that you have a whole panorama of intellectual inquiry that you can bring to bear in many different areas, with many different ideas, and from many allied disciplines. To a generalist like me, that's a real boon. So that was my general orientation as to why I decided to go into this field full time.

Question: The Kellogg Centers at the Universities of Georgia, Oklahoma, Syracuse, and Montana State could have a stimulating effect on the field of adult education or they could cause division and disharmony in the field. How do you see them building an esprit de corps?

Merriam: Each of the Kellogg grants is quite different. I could see value in some kind of meeting that would help them understand one another and avoid duplication. My initial thought is that it would be good to maximize differences among them.

Hiemstra: To avoid dissention and build rapport, we need to show the field that we can make some useful contributions. We need to get products out to the field that people can use. Then they will see that the field is benefitting from the Kellogg Centers.

Brookfield: The Centers could develop a self-enclosed group that talks only to one another. We need to look at adult learning from many viewpoints. Kellogg Centers do need to talk to one another, but the setting up of some formalized network for communicating with one another could lead to some of the rest of the field feeling excluded. My thrust would be to try to bring in experts from areas that have nothing to do with adult education in terms of formal affiliations and see if they could explode some of the traditional viewpoints we have about learning and education. Some of them could turn out to be real damp squibs and have no enduring value.

(Audience calls for clarification.)

Damp squibs? D.A.M.P. You know, fireworks that just fizzle. You expect a big explosion, and all they do is fizzle. We can exist very comfortably in our own little networks and yet mean little to the rest of the world of educational inquiry. It may take someone from the outside to take us wholly by surprise to move us forward.

Hiemstra: Some of the other Centers may also be doing things to involve others, but I know the Syracuse Center plans to hold three international meetings in the next 4 years to invite adult educators and people from other fields to provide input.

Brookfield: It would be wonderful if Kellogg money could be used to make available to the American field the European, Asian, and other

perspectives on adult learning. That would combat the ethnocentrism that so marks American research. The "World Award on Adult Education" has never been won by any book published outside the United States.